Compressors/Engines ☐
Dehydrators ☐
Pipelines ☐
Pneumatics/Controls ☐
Tanks ■
Valves ☐
Wells ☐
Other ☐

Capture Methane Released from Pipeline Liquid Storage Tanks

Applicable sector(s):

☐ Production ☐ Processing ■ Transmission and Distribution

Partners reporting this PRO: Columbia Gulf Transmission

Other related PROs: Install Pressurized Storage of Condensate, Install Flares, Install VRUs

Technology/Practice Overview

Description

Condensate liquids in produced gas are captured by a mist eliminator filter/coalescer ahead of the first compressor station in transmission pipelines. Methane as well as volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) are saturated in the condensate liquids at the high pressure. When the condensate liquids are transferred to atmospheric storage tanks, the methane, VOCs and HAPs flash from the stored liquid and are usually vented to the atmosphere.

A partner reported capturing and flaring the flash gases from their atmospheric condensate storage tanks. This practice reduces methane, VOC and HAP emissions.

Methane Savings

160 Mcf/yr

Costs

Capital Costs (including installation)

■ <$1,000 ☐ $1,000-$10,000 ☐ >$10,000

Operating and Maintenance Costs (Annual)

☐ <$100 ■ $100-$1,000 ☐ >$1,000

Payback (Years)

☐ 0-1 ☐ 1-3 ☐ 3-10 ■ >10

Principal Benefits

Reducing methane emissions was:

☐ **The primary benefit of the project** ■ **An associated benefit of the project**

Operating Requirements

Fuel gas for one or two flare pilot burners is needed for the flare.

Applicability

This practice is applicable at the first compressor station in the transmission line.

Methane Emission Reductions

The methane emissions savings are calculated for capturing and flaring flash gas from one condensate storage tank, assuming that the condensate is at 400-700 psig and releases up to 250 cf methane per barrel. One partner reported methane savings of 334 Mcf/yr from two condensate storage tanks.

Economic Analysis

Basis for Costs and Savings

The methane savings of 160 Mcf/yr are estimated for one atmospheric condensate storage tank that receives 1.75 bbl/day.

Discussion

The operating cost for this practice is based on a two-pilot flare that consumes fuel gas at 70 scf/hr per pilot. There is no capital cost with an existing flare, and no payback associated with implementing this practice. The primary benefit of the project is for environmental purposes.